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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A medical device comprising:

a device housing sized for introduction into and residence completely within the body lumen;

a fixation mechanism to attach the device housing to a surface within the body lumen; and

a controlled detachment mechanism mechanically actuated to selectively self-detach the device housing from the surface of the body lumen~~, wherein the medical device remains completely within the body lumen until after the device is detached from the surface~~.

Claim 2 (Original): The medical device of claim 1, wherein the fixation mechanism includes a cavity formed in the device housing and a shaft to capture luminal tissue within the cavity.

Claim 3 (Original): The medical device of claim 2, wherein the cavity includes a vacuum port for application of vacuum pressure to draw the tissue into the cavity.

Claim 4 (Original): The medical device of claim 2, wherein the fixation mechanism includes a spring to bias the shaft toward the tissue, and the detachment mechanism includes a solenoid coil wound about the shaft and a circuit to energize the solenoid coil to drive the shaft against the spring bias and thereby release the luminal tissue.

Claim 5 (Original): The medical device of claim 4, wherein the circuit is responsive to a control signal to energize the solenoid coil.

Claims 6-16 (Cancelled)

Claim 17 (Original): The medical device of claim 1, further comprising a power source to power the detachment mechanism.

Claim 18 (Previously Presented): The medical device of claim 17, wherein the power source includes a battery.

Claim 19 (Previously Presented): The medical device of claim 17, wherein the power source includes an inductive coupling circuit to generate power from an inductive element external to the body lumen.

Claim 20 (Previously Presented): The medical device of claim 1, further comprising a controller responsive to a control signal to activate the detachment mechanism.

Claim 21 (Previously Presented): The medical device of claim 20, wherein the controller includes a telemetry circuit to receive the control signal as a telemetry signal from an external controller.

Claim 22 (Previously Presented): The medical device of claim 20, wherein the controller includes an inductive coupling circuit to sense the presence of an external inductive element as the control signal.

Claim 23 (Previously Presented): The medical device of claim 20, wherein the controller includes an inductive coupling circuit to generate power from an inductive element external to the body lumen and thereby drive the detachment mechanism with the generated power.

Claim 24 (Original): The medical device of claim 1, wherein the device housing is sized for introduction into the esophagus.

Claim 25 (Original): The medical device of claim 1, wherein the device housing is sized for passage through the gastrointestinal tract.

Claim 26 (Original): The medical device of claim 1, further comprising a sensor, mounted to the device housing, to sense at least one condition within the body lumen.

Claim 27 (Original): The medical device of claim 1, further comprising a sensor, mounted to the device housing, to sense at least one of pH, flow, temperature, and pressure within the body lumen.

Claim 28 (Original): The medical device of claim 1, further comprising:

an electrical pulse generator, mounted within the device housing, to generate an electrical stimulation waveform;

one or more electrodes electrically coupled to the electrical pulse generator and mounted to the device housing to deliver the electrical stimulation waveform to the body lumen.

Claim 29 (Currently Amended): A method for attaching and detaching a medical device within a body lumen of a patient, the method comprising:

positioning the medical device at a target location within the body lumen;

activating a fixation mechanism carried by the medical device to attach the medical device to a surface within the body lumen~~, wherein the medical device is sized for residence completely within the body lumen~~; and

activating a controlled mechanically actuated detachment mechanism carried by the medical device to self-detach the medical device from the surface of the body lumen.

Claim 30 (Original): The method of claim 29, wherein the fixation mechanism includes a cavity formed in the device housing and a shaft to capture luminal tissue within the cavity, and activating the fixation mechanism includes advancing the shaft to capture the tissue.

Claim 31 (Original): The method of claim 30, wherein the cavity includes a vacuum port for application of vacuum pressure to draw the tissue into the cavity, and activating a fixation mechanism includes applying vacuum pressure to the vacuum port.

Claim 32 (Original): The method of claim 30, wherein the fixation mechanism includes a spring to bias the shaft toward the tissue, and the detachment mechanism includes a solenoid coil wound about the shaft, and activating the detachment mechanism includes energizing the solenoid coil to drive the shaft against the spring bias and thereby release the luminal tissue.

Claims 33-40 (Cancelled)

Claim 41 (Original): The method of claim 29, further comprising powering the detachment mechanism with a battery carried by the medical device.

Claim 42 (Original): The method of claim 29, further comprising powering the detachment mechanism with power generated by an inductive coupling circuit carried by the medical device in response to inductive energy generated by an inductive element external to the body lumen.

Claim 43 (Original): The method of claim 29, further comprising activating the detachment mechanism in response to receipt of a control signal from a controller external to the body lumen.

Claim 44 (Original): The method of claim 29, further comprising activating the detachment mechanism in response to presence of an external magnetic source.

Claim 45 (Original): The method of claim 29, further comprising positioning the medical device within the esophagus of the patient.

Claim 46 (Original): The method of claim 29, further comprising sensing at least one of pH, flow, temperature, and pressure within the body lumen with a sensor carried by the medical device.

Claim 47 (Original): The method of claim 29, further comprising:

generating an electrical stimulation waveform; and

delivering the electrical stimulation waveform to the tissue via one or more electrodes carried by the medical device.

Claims 48-66 (Cancelled)

Claim 67 (Previously Presented): A medical device comprising:

a device housing sized for introduction into and residence completely within the body lumen;

a fixation mechanism to attach the device housing to a surface within the body lumen, wherein the fixation mechanism includes a spring to bias the shaft toward the tissue; and

a controlled detachment mechanism to selectively detach the device housing from the surface of the body lumen, wherein the detachment mechanism includes a solenoid coil wound about the shaft and a circuit to energize the solenoid coil to drive the shaft against the spring bias and thereby release the luminal tissue.

Claim 68 (Previously Presented): The medical device of claim 67, wherein the circuit is responsive to a control signal to energize the solenoid coil.